“Dental caries is...not easily prevented or treated in the most susceptible children” 

An interview with Prof. Jill Fernandez and Drs Neal Herman and Lily Lim, New York University, USA

The oral health of children in the US is poor and carries figures are at an all-time high. What are the reasons for this?

Prof. Jill Fernandez: Actually, the oral health of children in the US has improved significantly over the past few decades, when you look at a national sample across all age groups. Today, most American children have excellent oral health, but a significant subset suffers from a high level of oral disease. The most advanced disease is found primarily amongst children living in poverty and, some, ethnic minority populations, children can no longer be ignored. It is unfortunate that even parents who have third-party coverage for dental care (Medicaid, Child Health Plus) and are from lower socioeconomic backgrounds often fail to seek dental care as part of the general health-care services. As a result, pre-school children with Medicaid may still have untreated decayed teeth.

The surgical approach to ECC—the ‘drill and fill’ solution of placing restorations in teeth as they become cavitated—has long been proven futile and often counter-productive. Therapeutic interventions, particularly utilising fluoride varnish, have shown promise in preventing, arresting and reversing carious lesions. Much more work must be done to document its success, but at least this ‘medical model’ has begun to address the fact that ECC is a bacterial disease that requires more than just filling up the holes.

ECC—a transmissible disease. What is your opinion on the latest research and how will it affect the way children should be treated?

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Early Childhood Caries (ECC) has increased not only in the US, but also worldwide. Should this area be considered a new priority in paediatric dentistry?

Prof. Jill Fernandez: ECC, and efforts in the intervention and treatment of early dental decay, has always been a major priority. In order to combat the current national epidemic of ECC in young children effectively, a more comprehensive, collaborative approach to the education of parents by all newborn and paediatric health-care providers, such as nurses, paediatric and general dentists, dental hygienists, paediatricians, paediatric nurse practitioners, obstetricians and gynaecologists, is essential.

The American Academy of Pediatrics (AAP) began a collaborative effort with paediatric dentists to address the issue of ECC. The AAP has made strides in developing educational programmes for paediatricians and family physicians to identify at-risk children and refer them for dental treatment. However, for many children access to dental care remains a problem and the number with dental caries seems to be growing. Many parents do not have dental insurance; thus, they postpone dental treatments until the problem is so advanced that it preserve a primary tooth rather than extract it (whenever possible). The goals of treatment for primary teeth are not much different to that for permanent teeth; in both cases, diseased portions of the dental pulp are removed in an effort to preserve the hard structure of the tooth for functional or cosmetic purposes.

What we conclude from the latest research is that dental caries is highly complex and perplexing, not easily prevented or treated in the most susceptible children. It is believed that today these days there are nutritional, behavioural, immunological and bacterial factors that must be considered in order to understand and prevent dental caries.

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there a lack of quality intervention strategies?  
Dr Neal Herman: If we (or the WHO) could answer this question, we’d have found the key to unlocking the mystery of improving or enhancing human motivation. It is probably true that without continual and periodic follow-up, counselling will wear off even amongst highly motivated individuals. We think the key lies with education that begins early and promotes a sound nutritional and sustainable oral-hygiene model for parent and child alike. As you might imagine, this is a task not well suited to the traditional dental-care delivery model, and will require some serious paradigm changes to permit effective implementation.  
What preventive measures do you recommend based on your clinical experience in New York?  
Dr Neal Herman: Preventive measures and conservative therapies that confront the cause of the disease, rather than treat the symptoms, are the most effective and work the best. Fluoride varnish has proven to be a godsend, although most of the evidence to date is empirical and anecdotal. Good long-term longitudinal studies are needed to prove conclusively what we already know as clinicians—an intensive regimen of fluoride varnish, along with adjunctive measures, can control and often reverse dental decay, as well as prevent it.  

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